

We claim:

Claim 1

sub 7 A transgenic plant comprising a nucleotide sequence encoding laccase, linked to a promoter to effect expression of the laccase in the plant, wherein the laccase is produced at levels of about 0.01% or higher of the total soluble protein of the plant.

Claim 2

A2 The ^{plant}method of claim 1 wherein the laccase is produced at levels of about 0.1% or higher.

Claim 3

A3 The ^{plant}method of claim 1 wherein the laccase is produced at levels of about 1% or higher.

Claim 4

The plant of claim 1 wherein the laccase is produced at levels of about 10% or higher.

Claim 5

The plant of claim 1 wherein the plant is corn.

Claim 6

The plant of claim 1 wherein the expression of laccase is preferentially directed to the seed of the plant.

Claim 7

The plant of claim 1 further comprising a fungal laccase-producing nucleotide sequence.

Claims 8

The plant of claim 1 wherein the plant is maize and further comprising the *Trametes versicolor* laccase-producing nucleotide sequence.

Claim 9

The plant of claim 1 wherein the nucleotide sequence producing laccase is a sequence having at least 68% to 100% identity with SEQ ID NO.1.

Claim 10

The plant of claim 9 wherein the sequence has at least 80% to 100% identity with SEQ ID NO. 1.

Claim 11

The plant of claim 1 wherein the nucleotide sequence producing laccase is a sequence which hybridizes to SEQ ID NO. 1 under stringent conditions.

Claim 12

The plant of claim 1 wherein the promoter is the globulin promoter.

Claim 13

Seed of the plant of claim 1.

Claim 14

Plant cells of the plant of claim 1

Claim 15

A method of producing laccase in plants in commercial quantities comprising introducing a construct into the plant comprising a nucleotide sequence encoding laccase linked to a promoter which directs expression in the plant such that the laccase is produced at levels of about 0.01% or higher soluble protein.

Claim 16

The method of claim 15 wherein the construct comprises a signal sequence directing expression of the laccase to the plant cell wall.

Claim 17

The method of claim 15 wherein the construct comprises a targeting sequence directing expression of the laccase to the endoplasmic reticulum of the plant cell.

Claim 18

The method of claim 15 wherein laccase is preferentially directed to the seed of the plant.

Claim 19

The method of claim 15 wherein the promoter is the globulin promoter.

Claim 20

The method of claim 15 further comprising a construct comprising introducing a fungal laccase-producing nucleotide sequence.

Claims 21

The method of claim 15 wherein the plant is maize and further comprising a construct comprising the *Trametes versicolor* laccase producing nucleotide sequence.

Claim 22

The method of claim 15 further comprising introducing a construct comprising a nucleotide sequence having at least 68% to 100% identity with SEQ ID NO.1.

Claim 23

The method of claim 15 wherein the sequence has at least 80% to 100% identity with SEQ ID NO. 1.

Claim 24

The method of claim 1 further comprising introducing a construct comprising a laccase-producing sequence which hybridizes to SEQ ID NO. 1 under stringent conditions.

Claim 25

A method of producing laccase in commercial quantities, comprising providing biomass from a plurality of plants, of which at least certain plants contain a nucleotide molecule comprised of a heterologous nucleotide sequence coding for the laccase, wherein the nucleotide sequence is operably linked to a promoter to effect expression of the laccase by the certain plants, and extracting the laccase from the plants.

Claim 26

The method of claim 25 wherein the laccase is produced at levels of about 0.01% or higher soluble protein in the certain plants.

Claim 27

A method of transforming a plant using *Agrobacterium* comprising contacting a cultured tissue of the plant during redifferentiation wherein said redifferentiation is obtained by culturing an explant on a redifferentiation-inducing medium, with the host bacterial strain comprising a disarmed helper strain derived from the A281 strain and also having a cointegrated superbinary/cloning vector.

Claim 28

The method of claim 27 wherein the strain is EHA101 having a cointegrated superbinary/cloning vector generated in LBA4404.

Claim 29

The method of claim 27 further comprising growing the strain to a density of less than OD600 = 0.5, harvesting the strain and resuspending the strain.

Claim 30

A method of transforming a plant with a gene of interest using *Agrobacterium* comprising contacting a cultured tissue of Hi-II maize line during redifferentiation wherein said redifferentiation is obtained by culturing an explant on a redifferentiation-

inducing medium, with the host bacterial strain EHA101, the host strain having the gene of interest and a cointegrated super binary/cloning vector generated in LBA4404, growing the strain for not more than 24 hours to a density of less than OD600 = 0.5, harvesting the strains and resuspending the strains.

Claim 31

The method of claim 30 wherein the strain is grown for six to 10 hours.

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